



REPLACEMENT DRAWING SHEET
Serial No. 10/004,058
Inventors: George V. Paul et al.

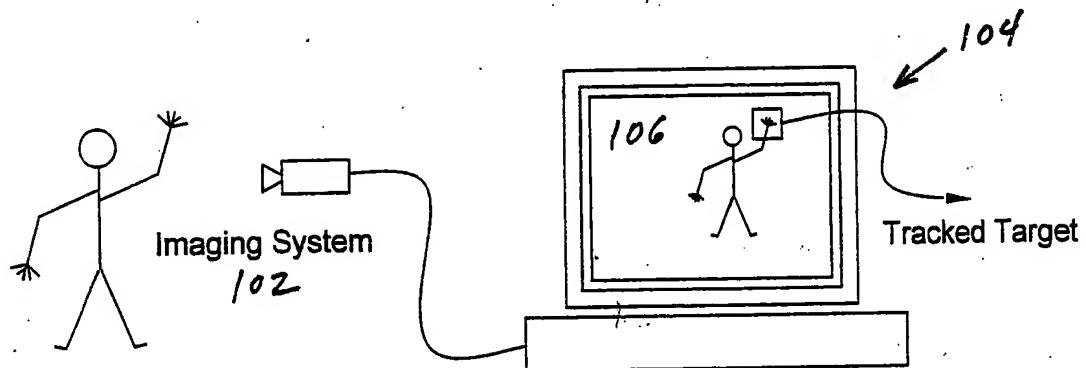


Fig - 1 Computer with Tracking Algorithm

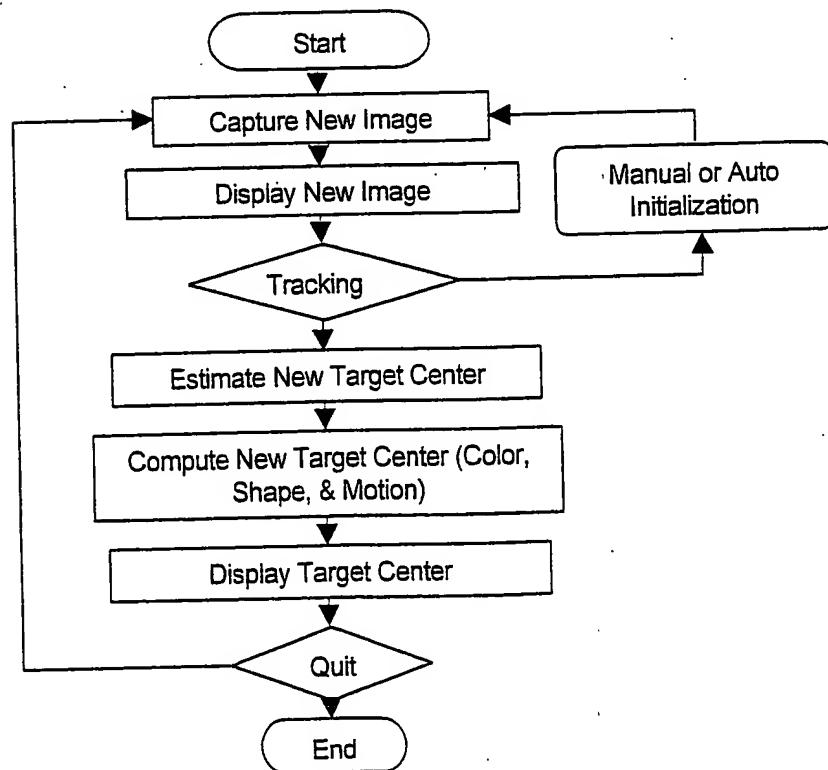


FIGURE 2



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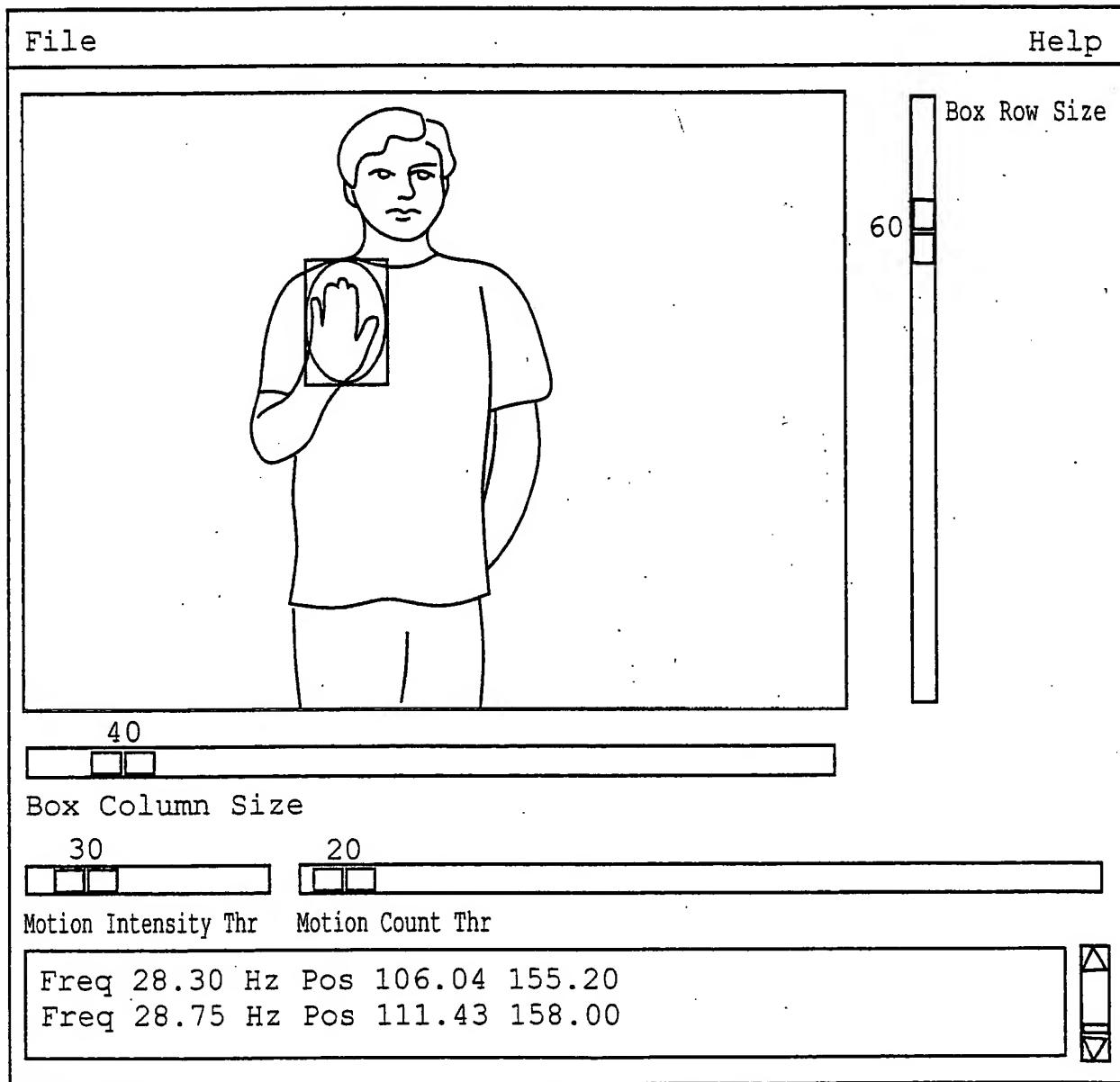


Fig - 3



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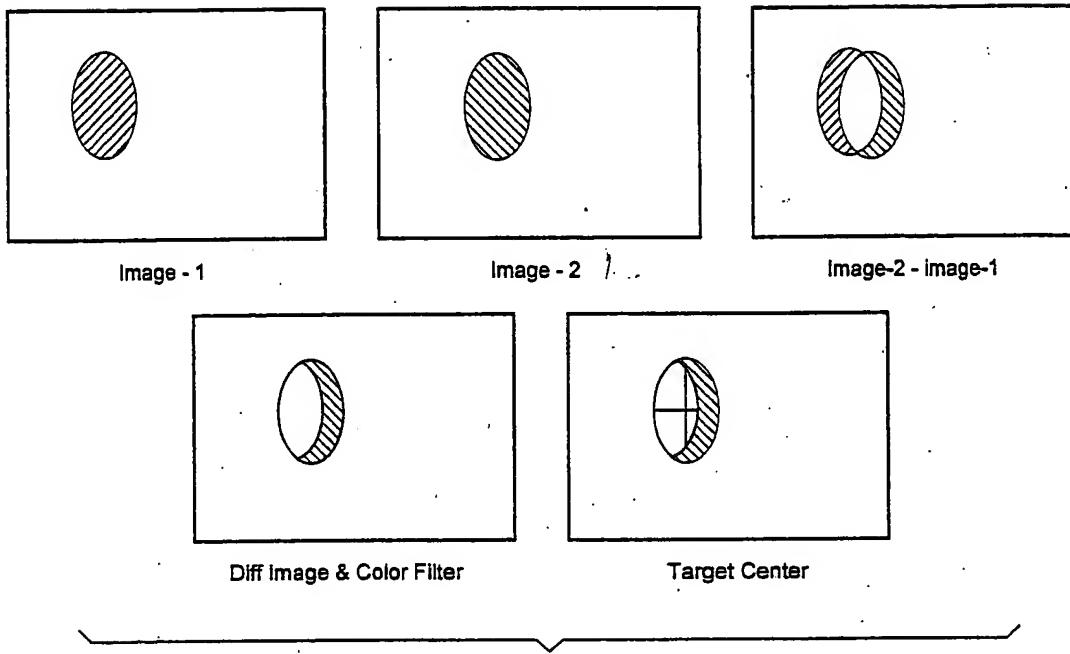


Fig - 4

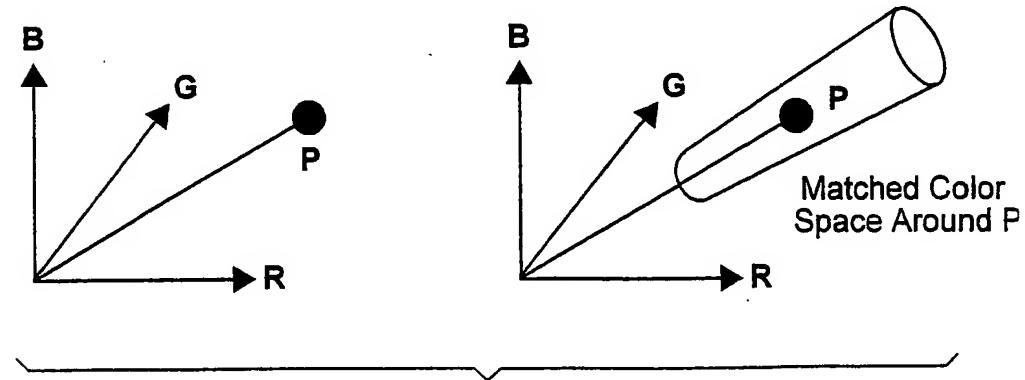


Fig - 5



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Given new image and the estimated target center as rc , cc and old target shape
begin

```
for i=rc-rs/2 to i=rc+rs/2
  for j=cc-cs/2 to j=cc+cs/2
    RGB = pixel(i,j)
    c = FindColorMatch(RGB)
    if c>0
      cr = c*i
      cc = c*j
      if this pixel lies on the previous shape template
        sr = c*i
        sc = c*j
        s = c;
      else pixel shows movement
        mr = c*i
        mc = c*j
        m = c;
      endif
      mark this pixel in the next shape template
      Nc = Nc+c
      Ns = Ns+s
      Nm = Nm+m
    else
      unmark this pixel in the next shape template
    endif
  endfor
endfor

cr = cr/Nc, cc = cc/Nc
sr = sr/Ns, sc = sc/Ns
mr = mr/Nm, mc = mc/Nm

compute new target center as a weighted average
newr = cr*cw + sr*sw + mr*mw
newc = cc*cw + sc*sw + mc*mw
velr = (newr-rc)/t
velc = (newc-cc)/t
```

FIGURE 6



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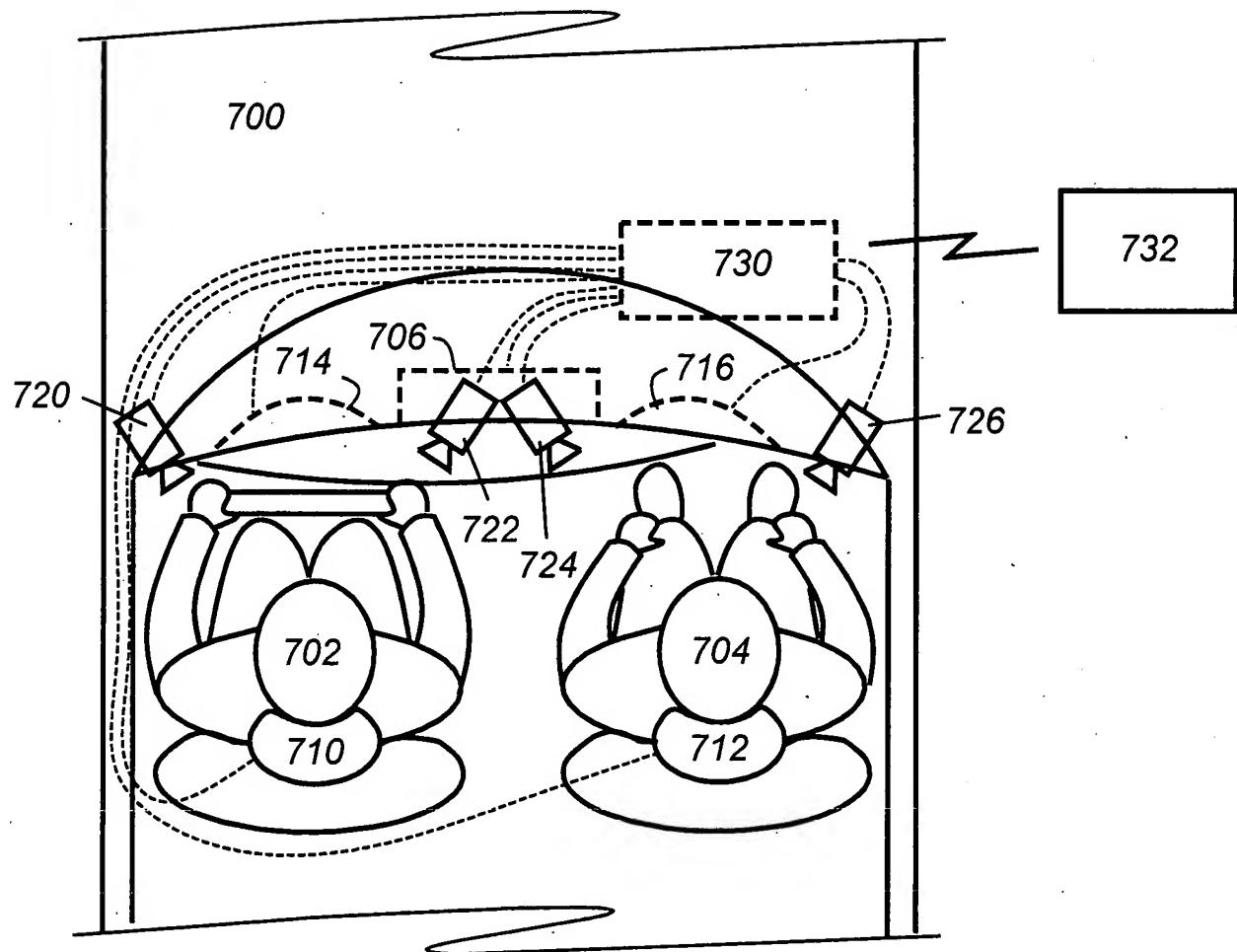


FIGURE 7